

PREFERENCE PROGRAMMABLE FIRST-ONE DETECTOR AND QUADRATURE BASED RANDOM GRANT GENERATOR

ABSTRACT

5 A preference programmable first-one detector and quadrature based random grant generator in a crossbar switch is disclosed. The crossbar switch emulates a FIFO switching function in a single chip crossbar switch architecture that operates at a high switching speed with a large bandwidth and supports multiple QoS levels, yet do not demand an inordinately large number of input and output queues or otherwise excessively tax memory requirements. The system and method operate at a high switching speed with a large bandwidth and support multiple QoS levels, yet do not require a complex pointer management system, nor constrain switching speeds and bandwidth capacity therein. The system and method efficiently select data for switching within a crossbar switch based structure based on an urgency counter based WRR grant selection. This switching is achieved with economy of hardware by quadrature basing and quadrature preference selection.

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